

(FILE 'HOME' ENTERED AT 22:38:21 ON 23 MAR 2008)

FILE 'CAPLUS, MEDLINE, USPATFULL' ENTERED AT 22:38:39 ON 23 MAR 2008  
L1 18571 S (DRY (4A) (POWER OR PARTICLE OR PARTICULATE OR GRANULE))  
L2 1121 S L1 (S) (CARRIER OR EXCIPIENT OR ADJUVANT)  
L3 108 S L2 (S) LACTOSE  
L4 1 S L2 (S) (BUDESONIDE OR FORMOTEROL)  
L5 1185 S L1 (P) (CARRIER OR EXCIPIENT OR ADJUVANT)  
L6 2 S L2 (P) (BUDESONIDE OR FORMOTEROL)  
L7 2 DUP REM L6 (0 DUPLICATES REMOVED)  
L8 1 S L7 NOT L4  
L9 5595 S L1 AND (CARRIER OR EXCIPIENT OR ADJUVANT)  
L10 342 S L9 AND (BUDESONIDE OR FORMOTEROL)  
L11 311 S L10 AND LACTOSE  
L12 298 S L11 AND (INHAL? OR RESPIR?)  
L13 22 S L12 NOT PD:20020802  
L14 22 DUP REM L13 (0 DUPLICATES REMOVED)  
L15 22 FOCUS L14 1-  
L16 2 S L15 AND MONOLAYER  
L17 2 S L16 NOT (L4 OR L8)

=> d L8 1 TI AB IBIB, L4 1 TI AB IBIB, L17 1-2 TI AB IBIB  
L4 IS NOT VALID HERE  
For an explanation, enter "HELP DISPLAY".

=> d L8 1 TI AB IBIB

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN  
TI In vitro evaluation of dry powder inhalers II: influence of carrier  
particle size and concentration on in vitro deposition  
AB Dry powders and their delivery devices are an alternative to pressurized  
metered-dose inhalers (pMDI) for the administration of aerosols to the  
lungs. Generally dry powder aerosols are formulated by mixing a cohesive  
micronized drug with larger carrier particles resulting in an interactive  
powder mixture. Redispersion of the drug from agglomerates or the carrier  
surface during inhalation is a critical factor which greatly influences the  
fine particle fraction (particles<6.4  $\mu$ m) to be achieved. Two devices,  
the single-unit-dose Spinhaler<sup>TM</sup> (Fisons) and the multiple-unit-dose  
Easyhaler<sup>TM</sup> (Orion Pharma) were used to investigate the influence of dry  
powder formulation on the deposition of interactive mixts. Following the  
scheme of a 32-factorial design budesonide was mixed with  
lactose- $\alpha$ -monohydrate varying the lactose sieve fractions and the  
drug to carrier proportion. The in vitro deposition of these mixts. was  
determined using a Twin Stage Impinger (Apparatus A, BP 93) and compared to  
control  
expts. performed with unsieved drug carrier. Deposition was found to be  
highly dependent on the dry powder formulation. Fine particle fractions  
from 10 up to 50% were observed. The Easyhaler<sup>TM</sup> shows little differences  
compared to the Spinhaler<sup>TM</sup> device.

ACCESSION NUMBER: 1997:539681 CAPLUS  
DOCUMENT NUMBER: 127:195355  
TITLE: In vitro evaluation of dry powder inhalers II:  
influence of carrier particle size and concentration  
on in vitro deposition  
AUTHOR(S): Steckel, Hartwig; Mueller, Bernd W.  
CORPORATE SOURCE: Department of Pharmaceutics and Biopharmaceutics,  
Christian-Albrecht-University Kiel, Gutenbergstr. 76,  
Kiel, 241 18, Germany  
SOURCE: International Journal of Pharmaceutics (1997), 154(1),  
31-37

CODEN: IJPHDE; ISSN: 0378-5173  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d L4 1 TI AB IBIB

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN  
TI The influence of relative humidity on particulate interactions in carrier-based dry powder inhaler formulations  
AB An atomic force microscope (AFM) colloid probe technique has been used to investigate the effect of relative humidity (RH) on the adhesion properties of pharmaceutical powder surfaces. The adhesion between a model substrate,  $\alpha$ -lactose monohydrate, and model particulate drugs, salbutamol sulfate and budesonide, was investigated between RHs of 15 and 75%. The surface topog. of the model  $\alpha$ -lactose monohydrate was produced by controlling the supersatn. conditions during crystal growth to produce sub-nanometer scale roughness. The adhesion interactions between lactose and drug probes of salbutamol sulfate and budesonide were shown to be significantly increased with each incremental rise in humidity. Capillary forces were significantly more dominant for the adhesion in the budesonide-lactose system up to 60% RH but were more dominant for salbutamol sulfate-lactose above 60% RH. These studies suggested that non-surface-specific capillary forces play a dominant role in the adhesion between drug and carrier, which may significantly reduce the deaggregation and dispersion properties of a dry powder formulation.

ACCESSION NUMBER: 2002:718319 CAPLUS  
DOCUMENT NUMBER: 139:26499  
TITLE: The influence of relative humidity on particulate interactions in carrier-based dry powder inhaler formulations  
AUTHOR(S): Price, R.; Young, P. M.; Edge, S.; Staniforth, J. N.  
CORPORATE SOURCE: Department of Pharmacy and Pharmacology, Pharmaceutical Technology Research Group, University of Bath, Bath, BA2 7AY, UK  
SOURCE: International Journal of Pharmaceutics (2002), 246(1-2), 47-59  
CODEN: IJPHDE; ISSN: 0378-5173  
PUBLISHER: Elsevier Science B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d L17 1-2 TI AB IBIB

L17 ANSWER 1 OF 2 USPATFULL on STN  
TI Phospholipid-based powders for drug delivery  
AB Phospholipid based powders for drug delivery applications are disclosed. The powders comprise a polyvalent cation in an amount effective to increase the gel-to-liquid crystal transition temperature of the particle compared to particles without the polyvalent cation. The powders are hollow and porous and are preferably administered via inhalation.  
ACCESSION NUMBER: 2002:66665 USPATFULL  
TITLE: Phospholipid-based powders for drug delivery  
INVENTOR(S): Weers, Jeffry G., Half Moon Bay, CA, UNITED STATES

Tarara, Thomas E., Burlingame, CA, UNITED STATES  
Dellamary, Luis A., San Marcos, CA, UNITED STATES  
Riess, Jean G., Falicon, FRANCE  
Schutt, Ernest G., San Diego, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002037316	A1	20020328
APPLICATION INFO.:	US 2001-851226	A1	20010508 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2000-568818, filed on 10 May 2000, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-208896P	20000602 (60)
	US 2000-216621P	20000707 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	INHALE THERAPEUTIC SYSTEMS, INC, 150 INDUSTRIAL ROAD, SAN CARLOS, CA, 94070	
NUMBER OF CLAIMS:	51	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Page(s)	
LINE COUNT:	1912	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L17 ANSWER 2 OF 2 USPATFULL on STN  
TI Carrier particles for use in dry powder inhalers  
AB A powder for use in a dry powder inhaler includes active particles and carrier particles for carrying the active particles. The powder further includes additive material (4) on the surfaces of the carrier particles to promote the release of the active particles from the carrier particles on actuation of the inhaler. The powder is such that the active particles are not liable to be released from the carrier particles before actuation of the inhaler. The inclusion of additive material (4) in the powder has been found to give an increased respirable fraction of the active material.  
ACCESSION NUMBER: 2000:160622 USPATFULL  
TITLE: Carrier particles for use in dry powder inhalers  
INVENTOR(S): Staniforth, John Nicholas, Bath, United Kingdom  
PATENT ASSIGNEE(S): Co-ordinated Drug Development Limited, London, United Kingdom (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6153224		20001128
	WO 9623485		19960808
APPLICATION INFO.:	US 1997-875391		19970925 (8)
	WO 1996-GB215		19960131
			19970925 PCT 371 date
			19970925 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1995-1841	19950131
	GB 1995-21937	19951026
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Azpuru, Carlos A.	

LEGAL REPRESENTATIVE: Merchant & Gould P.C.  
NUMBER OF CLAIMS: 30  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 2 Drawing Page(s)  
LINE COUNT: 1512  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.